Sachse Amateur Radio Association

SARA SKYWAVES

W5SRA

SEPTEMBER 2020

MY CORNER OF THE SHACK

by John Smyder, W5JWS

Welcome to September. You should have received an email recently reminding you join or renew your membership so that you will be eligible to vote in our upcoming Board of Directors election. As part of your membership renewal I would like to encourage you to become a member of the ARRL as well.

"ARRL is the national association for Amateur Radio in the US. Founded in 1914 by Hiram Percy Maxim as The American Radio Relay League, ARRL is a noncommercial organization of radio amateurs. ARRL numbers within its ranks the vast majority of active radio amateurs in the nation and has a proud history of achievement as the standard-bearer in amateur affairs. ARRL's underpinnings as Amateur Radio's witness, partner and forum are defined by five pillars: Public Service, Advocacy, Education, Technology, and Membership." [1]

Some of the benefits of being an ARRL member are:

Advocacy – The ARRL is our voice in to the FCC. As many of you are aware the FCC is more than happy to sell spectrum to the highest bidder and without our voice declaring the importance of what we can do in the Public Service arena our bands would likely be much smaller than they are today.

Education – There are many courses that you can take through the ARRL and books available covering so many aspects of the Amateur Radio Service. Some of the online course are free (e.g. EC-001: Introduction to Emergency Communication) and will help you be better prepared for public service events

Publications – Want to learn more about this hobby? The ARRL has 4 periodicals that are, now, all available electronically with your membership. All you need is an app for your phone or your login information to the ARRL website and you will have access to all four of the following magazines:

'On the Air' is a great magazine for the beginner to intermediate ham and can help with "…making your first radio contact to selecting the right equipment to project building and getting involved with public service or your local clubs"

'QST' has equipment reviews, technical tips, projects, and news related to ham radio.

'QEX' is a magazine for those who like to experiment with ham radio and discuss/learn about some of the more advanced technical work in ham radio.

Shack, Continued on page 2

The General Meeting Thursday, September 10, will be Online!

Use this Link:

September General Meeting

Or Join by phone: (US) +1 317-732-7356
PIN: 588 587 249#

JOIN US

SARA Weekly Information Net
When: Weekly on Wednesdays, 8:00pm – 8:30pm
Where: N5LOC (145.250, PL 141.3)

The Sachse Amateur Radio Association uses the N5LOC repeater in Sachse, TX:

- Frequency: 145.25 MHz
- Shift: -600 kHz
- PL tone: 141.3

The W5SRA UHF Repeater is on the air.
440.350, +5, and 110.9 Tone in and out.

Shack, Continued from page 1

'NCJ' is the National Contest Journal. Want to get hints on how to participate in contests and be more successful, this magazine has articles that will help you with hints and tips. It also contains information about upcoming contests, results from previous contests and more.

Email Newsletters – There are also some email newsletters you can subscribe to that will give you current events information related to ham radio and information about ARES (Amateur Radio Emergency Service).

Equipment Insurance – This covers ham radios and related equipment including computers and has a very low deductible. The insurance includes tower and antenna coverage up to $15k replacement cost. You can find out more about this benefit here. This is all at a pretty reasonable rate as well ($1.40/$100 value) and the best part it is replacement cost, not a pro-rated value.

Help your club – Finally you can help your club financially. As an ARRL Affiliated Club, the Sachse Amateur Radio Association can receive $15 of the dues paid to ARRL if you are a new member and $2 if you are a renewing member. I can help you with the paperwork for that (yes there is paperwork and we're working with the ARRL to see if the process can't be modernized). Just drop me a note or catch me on the repeater.

Membership is less than a cup of Starbucks per month (~$4/month) so, in my view, the benefits are a real value.

I wanted to give an update on the W5SRA repeater.

We have moved the W5SRA repeater, (440.350Mhz, +, PL 110.9) to a new temporary location and are using the antenna purchased for the final installation. The base of the antenna is approximately 36 feet in the air which is comparable to the height we will have at the church. And the ground elevation is also comparable to the churches location (~525' above sea level). So, the current location and installation replicates what we'll have at our final location.

We have done some 'distance' testing and have folks hitting it from Sachse, east Plano (Jupiter & Plano Pkwy via mobile), Murphy, and Richardson.

As far as the final location of the repeater, the electrician has been in to the church and gotten us power and we are waiting for special brackets for mounting our antenna. We still need to get the coax run and then we will be ready to move the repeater to its final location.

Finally, our September 10th General Meeting @ 19:30 will again be virtual via Google Meet (meeting link). We will be completing our Board of Directors elections at this meeting per our By-Laws.

I hope to hear you on the air and 'see' you at the general meeting on the 10th. Take care, stay safe and healthy.

73, W5JWS – John S

[1] This is from the ARRL website.

UPCOMING EVENTS

Sep 10 - General Meeting

This month the program will be the Board Elections!
Link: September Meeting Link

Sep 12 - VE Test Session

9:00 – 11:00am. Monthly on the second Saturday. 508 Parker Rd, Wylie, TX 75098. Contact: AC5BC (Bill) 214.500.3472, ac5bc2@verizon.net for additional details. While not required, scheduling with Bill in advance is appreciated!

Sep 24 – Board Meeting

Oct 17 - ARRLNTX Mentor Fest

Details will be posted at the http://arrlntx.org website soon We are very hopeful that by October we are able to have gatherings and proceed with Mentor Fest, but remain flexible for any change.

Wednesday Repeater Net
N5LOC Repeater 145.250, Tone 141.3 @8:00 PM

2 Sept - Linda Smyder, K5LCS
9 Sept - John, W5JWS
16 Sept - Steve, W5SOT
23 Sept - ?
30 Sept - ?

Sunday Public Service Net -
N5LOC Repeater 145.250, Tone 141.3 @9:00 PM

Specifying a CW Radio, and "Head Copy"

The main advantage of CW over SSB is the narrow bandwidth of the CW signal. A typical CW signal might be 200 Hz wide, while the typical SSB signal is more than 2000 Hz wide. On the lower frequency HF bands, cosmic (galactic) RF noise is the limiting factor in long-distance communication. A readable signal has to be above the noise level. A receiver with a 300 Hz bandwidth can cut cosmic noise by a factor of 10 over an SSB receiver with a 3000 Hz bandwidth. That makes weaker signals readable.

This assumes, however, that your receiver can narrow the bandwidth. In the old days, that ability was conferred by crystal IF filters (modules) which were extra-cost "options". In a modern radio, IF filtering is usually done by digital signal processing (DSP). Very high end radios often have both crystal filters and DSP.

If your radio can't cut the receive bandwidth down, CW has few advantages over SSB. So, it is important to spec a radio for CW operation. For an older radio, that may mean buying the "narrow" filters (500 Hz, and 270 Hz) and installing them in the option slots.

There are other ways to reduce the apparent bandwidth by using audio filters. Filtered speakers and add-on audio filter boxes can also improve the signal-to-noise ratio. Generally they aren't as effective as IF filters – but they do help.

When I am monitoring a CW frequency (or sending CQ), I start with a 500 Hz filter. That allows for incoming signals to be off-frequency a little, and for me to still hear them. Once I zero-beat the incoming signal (align my transmit frequency precisely with theirs), I can choke the filter bandwidth down further if necessary. The weaker the incoming signal is, the more I reduce the bandwidth – until the signal is clearly readable above the noise.

This assumes that the radio can do these things. To take full advantage of the benefits of CW, it's essential to have a radio with narrow filters. How a radio is spec'd makes a big difference.

-

I'm a year and a half into my CW journey. It has been a slow evolution – I don't have much talent for learning Morse code. But, CW opened the door for me to be a DX operator with a 100 watt radio. And CW is the key to QRP operation. I like being in the park with a QRP radio and a wire antenna. So, I persevere. Progress for me is slow, but I'm getting there.

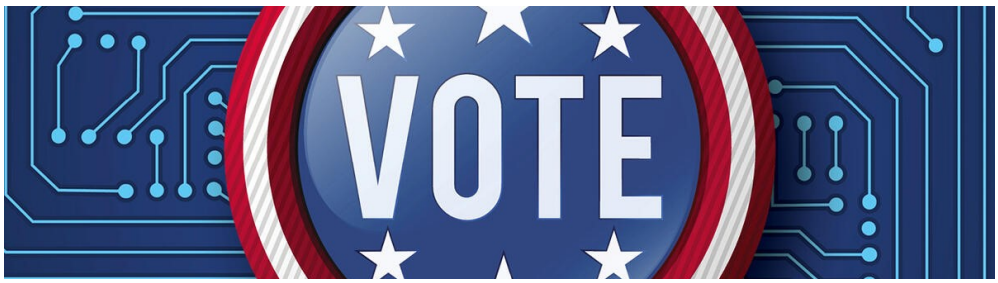
At some point, one cannot write fast enough to keep up with the incoming code. I'm sure that some can copy faster than others, just like some major league hitters can handle a 100 mph fastball. I'm not a major league hitter.

I have to utilize strategies to deal with my individual weaknesses. One of those strategies is to develop the ability to "head copy" – that is, to read code without writing it down. Writing down code requires the brain to multi-task. It severely limits the speed at which I (or anyone else) can read code.

One strategy is to listen to the previous QSO and to write down everything needed for a log entry. I capture the call sign, the name, the QTH, the frequency, and maybe a club number. At that point, I am "free". I can set the pencil down. Once the previous QSO ends, I jump in and "tail end" it. With all of the heavy lifting done, I can concentrate solely on hearing the code, and head copying it. Having the log information in hand before a QSO starts takes the pressure off, and makes things a lot more enjoyable.

There are purists who would say that this is a "crutch". I would remind them that in the telegraph days, the telegraph operators usually had a paper tape punch machine. They could go back and read the paper tape if they missed anything. *There have always been crutches. It's not a sin to use one.*

- Jim Eatman KG5WAW



UPDATE 09/01: Ballots have been emailed to everyone who has paid their membership dues for 2020-2021. We will continue to email ballots to all those who join or renew up until close of business (6pm) on the 10th of September.

Just a reminder for the upcoming Board elections that we will begin to email ballots to all members that have renewed their membership for the 2020-2021 year (our year goes Sept to Sept) on September 1st.

You can join or renew on our website

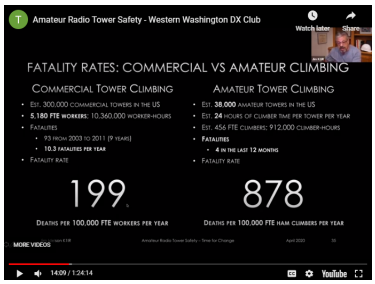
(https://www.sachseradio.org/how-to-join).

Amateur Radio Tower Safety Presentation for the Billerica ARS

By Jim Idelson, November 9, 2019

It could save you life or the life of your favorite tower climber. It is chock full of solid information and is based on facts.
(Click the pictures for the Videos)

Here's another presentation Jim did for the Western Washington DX Club


Amateur Radio Tower Safety - Western Washington DX Club
FATALITY RATES: COMMERCIAL VS AMATEUR CLIMBING
COMMERCIAL TOWER CLIMBING
AMATEUR TOWER CLIMBING
199
878
DEATHS PER 100,000 FTE WORKERS PER YEAR
DEATHS PER 100,000 FTE HAM CLIMBERS PER YEAR

NEWSLETTER ARTICLES

Working on a project that you think the club members would be interested in? Read a good HAM related article somewhere? Send articles to Steve, W5SOT, at: newslettereditor@sachseradio.org

ACTIVITIES COMMITTEE

SARA vice-president Greg Kent, KK6AXF heads up the SARA Activities Committee. Anyone who is willing to help or has ideas may contact Greg, KK6AXF, at kk6axf@gmail.com.

SARA BRANDED GEAR

We now have two suppliers for SARA gear. Both of these companies have our logo on file.

HamThreads will do hats, shirts, jackets and vests. They can do single items. HamThreads is in Saginaw.
https://www.hamthreads.com

Cactus Awards is local to Wylie and they specialize in Awards, Trophies, Plaques, Engraving and Embroidery as well as Tee-Shirt printing. Minimum order for some clothing is 3.
http://www.cactusawards.com

SARA NAME BADGES

If you need a SARA name badge please go to:
https://namebadge.com/sachse

FCC Proposes to Reinstate

08/28/2020

[UPDATED 2020-09-01 @1845 UTC] Amateur radio licensees would pay a $50 fee for each amateur radio license application if the FCC adopts rules it proposed this week. Included in the FCC's fee proposal are applications for new licenses, renewal and upgrades to existing licenses, and vanity call sign requests. Excluded are applications for administrative updates, such as changes of address, and annual regulatory fees.

The FCC proposal is contained in a *Notice of Proposed Rulemaking* (***NPRM***) in MD Docket 20-270, which was adopted to implement portions of the "Repack Airwaves Yielding Better Access for Users of Modern Services Act" of 2018 — the so-called "**Ray Baum's Act**."

The Act requires that the FCC switch from a Congressionally-mandated fee structure to a cost-based system of assessment. In its *NPRM*, the FCC proposed application fees for a broad range of services that use the FCC's Universal Licensing System (ULS), including the Amateur Radio Service that had been excluded by an earlier statute. The 2018 statute excludes the Amateur Service from annual regulatory fees, but not from application fees.

"[A]pplications for personal licenses are mostly automated and do not have individualized staff costs for data input or review," the FCC said in its *NPRM*. "For these automated processes — new/major modifications, renewal, and minor modifications — we propose a nominal application fee of $50 due to automating the processes, routine ULS maintenance, and limited instances where staff input is required."

The same $50 fee would apply to all Amateur Service applications, including those for vanity call signs. "Although there is currently no fee for vanity call signs in the Amateur Radio Service, we find that such applications impose similar costs in aggregate on Commission resources as new applications and therefore propose a $50 fee," the FCC said.

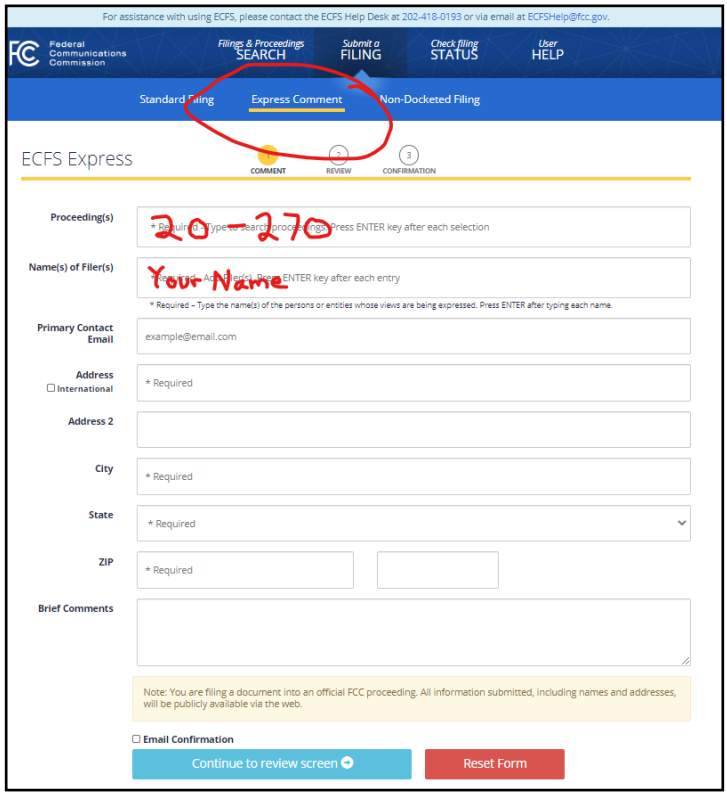
The FCC is not proposing to charge for administrative updates, such as mailing address changes for amateur applications, and amateur radio will remain exempt from annual regulatory fees. "For administrative updates [and] modifications, which also are highly automated, we find that it is in the public interest to encourage licensees to update their [own] information without a charge," the FCC said.

The FCC also proposes to assess a $50 fee for individuals who want a printed copy of their license. "The Commission has proposed to eliminate these services — but to the extent the Commission does not do so, we propose a fee of $50 to cover the costs of these services," the FCC said.

The Ray Baum's Act does not exempt filing fees in the Amateur Radio Service. The FCC dropped assessment of fees for vanity call signs several years ago.

Deadlines for comments and reply comments will be determined once the *NPRM* appears in the *Federal Register*. **Interested parties may file comments by using the FCC's Electronic Comment Filing System (ECFS)**, posting to MD Docket No. 20-270. This docket is already open to accept comments, even though deadlines have not yet been set.

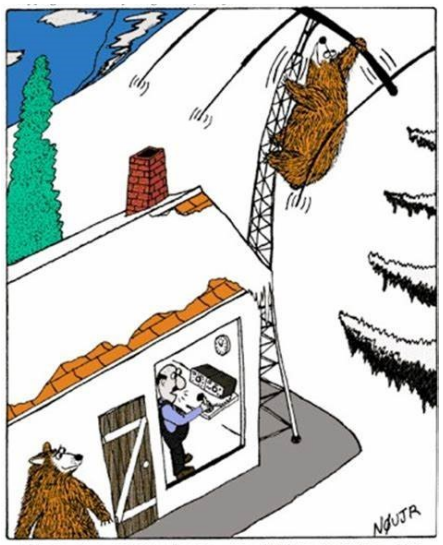
https://www.fcc.gov/ecfs/filings



NOTE: ***Make sure you select "Express Comment at the top of the page!***

You will need to enter the Docket Number and your name (Hit Enter after Each) in order to submit a comment.

Some Amateur Radio Definitions, (Humor)



"Hang on a minute Larry...my SWR is jumping...I'm going outside and see what the problem is..."

For those new to ham radio, here are some useful definitions, pertaining to antennas and DX-ing.

S.W.R. -- A term, applied to any part of the antenna system, which means: "Savings-to-Watt Ratio". Based on the inverse relationship of dollars in the bank and effective radiated power. Characteristic Impedance The usual reaction of your spouse when told about the proposed antenna system.

Traps -- Devices installed in antennas to collect rain-water, to keep it from running further down the antenna.

Wind Loading -- The measure of how much more awkward it gets to handle a big beam as you ascend the tower.

Balun -- (Pronounced: "balloon" by many). An anti-surveillance device, installed in coaxial lines at the antenna, to prevent nosy neighbors from eavesdropping on you through their TV sets.

Transmatch -- A device mistakenly believed to decrease S.W.R.. The premise is that this device allows you to load up into a mis-matched antenna. Unfortunately, it the cost of one that lowers your S.W.R.

House Bracket -- A device which secures the house and the tower together. It lets the tower do double-duty by holding up the house during severe windstorms.

Rotator Control Box -- A device which is designed to let you monitor antenna "windmilling".

Windmilling -- A technique whereby prevailing winds are allowed to rotate the antenna, enabling the operator to "scan" the radio horizon.

Dummy Load -- A measure of the stress exerted on a tower by a ham who climbs the tower without a safety belt.

Coax -- (Usually mis-pronounced as two syllables). A term applied to the maneuvering of a piece of transmission line through the attic or walls of a house.

Db's Gain -- A bunch of yellow-jacketed wasps found a great place to build their nest, at the bottom of the rotator housing on my tower.

Db's Loss -- Fortunately, lightning struck the tower and the wasps were totally destroyed.

Vertical -- A much-maligned antenna, said by some critics to "radiate equally poorly in all directions". This is not true, as many who have built one know. In fact, the vertical can have directional characteristics, and not radiate at all in some directions. I hope this clears up that myth once and for all!

Sloper -- A variation of the vertical, where high winds have affected thin-walled aluminum tubing used in the construction.

Inverted Vee -- A clever, but inferior, reverse adaptation of the true, "upright Vee", which allows the use of a single support instead of the usual two.

Dipole -- Another modification of the true "Vee", and used where it is not possible to get the center feed point close to the ground.

Ground Plane -- Usually, an array of 1/4-wavelength arms extending from the base of some verticals (or "slopers"). These arms are not recommended unless a rotator is also used, to take advantage of their directional features.

Directional Coupler -- A device inserted into the transmission line which monitors the environment outside the shack, by utilizing the antenna as a remote sensor. For example, when the antenna responds to weather conditions such as severe icing or heavy winds, the coupler will produce indications of these responses. A special directional coupler has even been designed, presumably, to tell you when BIRDs are sitting on your antenna!

Smith Chart -- An alias, to be used when you don't want people to know what chart you really used to design your antenna.

Long Path -- The direction you are told to aim your antenna, to work a rare DX station, as suggested by the other fellows in the pileup.

Element Spacing -- A critical antenna design factor which is optimized to place the tunable traps on a beam as far out of reach as possible, from the tower.

Diversity Effect -- A property in which the quad-type antenna far excels over the yagi-type antenna. It relates to the number of directions an antenna can collapse into, under heavy winds.

Selective Fading -- A quirk of propagation, whereby a signal arrives at a distant point by multipath, and where the different signal components arrive with varying phase relationships. This causes the signal to be "cancelled out" at some points. This wonderful effect helps eliminate some of the QRM from distant DX stations when you are trying to copy the pileup.

"Off the back of the Antenna" -- A technique used by more experienced DX-ers, where the antenna is pointed away from the station being contacted. This creates a challenge similar to running QRP.

QRP -- Restricting final input power to the transmitter to anything less than 500 watts, on 20 meters.

Speech Processor -- A "state of the art" device which permits one to communicate with as many others at the same time as possible. However, beginner operators need to learn how to use one properly, to expand the signal beyond a narrow, 3 KHz bandwidth.

"IMOKINCALLBK" -- An expression used in a CW QSO, to say: "you send me your QSL card first, turkey, and then I'll send you mine".

IRC -- An economic instrument, administered by the Postal Service, to control the balance-of-trade deficit.

Parasitic Element -- A person who takes lists for DX-stations.

LISTS -- A method of making DX contacts, where some self-appointed person takes a list "on the air" (aka: his buddies on 2-meters) of people who wish to "work" a person in some DX location. This makes it easy for hams who do not have the patience or time to learn real DX skills to get a quick, easy contact. In fact, if you can't hear the actual report from the foreign station, the list-controller will often help ("...OK, there, WB6xxx, did you hear Jose give you a '59' signal report?").

QSL Manager -- The station you worked in Juan De Nova tells you to send a "Green Stamp" to a ham in Germany who is called a "QSL Manager". It is his duty to send your card to a ham in California, who then (after holding it for 8 months) sends you a QSL card.

SARA Repeater Fund Raiser

Who we are: Sachse Amateur Radio Association (SARA). We have members from our surrounding communities: Sachse, Wylie, Murphy, Garland, Rowlett and other local cities.

Why we exist: Amateur Radio, also known as **ham radio**, is the use of radio frequency spectrum for purposes of non-commercial exchange of messages, wireless experimentation, self-training, private recreation, radio-sport, contesting, and ***Emergency Communication***. We have events to support the community and teach our membership how to support the community both for emergency and non-emergency ways.

Events we support are: Sachse Cars under the Stars, Wylie Championship Rodeo, Sachse Fall Fest, Sachse Red White and Blue Blast, Monthly Sachse Outdoor Warning Siren testing and other events providing radio communication support and more.

How we practice being ready to support the community in an emergency: weekly and fortnightly having controlled radio nets both on a repeater and simplex radio networks so that in the event of an emergency we can respond with communications if needed.

Why is this important: In the event of a disaster (natural or man-made) cell phone towers may go offline, Police and Fire communications also might go offline or be overwhelmed with calls. **Amateur Radio** is a backup solution in the event of an emergency. An example of this was Puerto Rico in the wake of Hurricane Maria. Most of the island lost power and phone coverage (both land line and cell phone were out). The Red Cross contacted the American Radio Relay League and requested help, "We need 50 of your best radio operators to go down to Puerto Rico.". See https://www.cnn.com/2017/09/27/us/puerto-rico-maria-ham-radio-operators-trnd/index.html for more detail. Now we are not going get hit with a hurricane here in the SARA north Texas area but we could be and have been hit with tornadoes, and large hail storms that have done a lot of damage and have in some cases knocked out communications in the process.

What are we trying to accomplish: We are trying to raise money to setup a Sachse Amateur Radio Association owned Radio Repeater. This will give us greater coverage of the local area in the event of an emergency. We have been slowly saving club finds to afford a repeater, but we are a small club, and to date we have not reached out to the local community for assistance. Until recently there have be privately owned repeaters available, but recently one of those repeaters went offline permanently, another has been having issues with interference for technical reasons. So, we are feeling the pressure to get a new repeater online in the community to have good coverage in the event it's needed. We have found a local church that is willing to house the repeater and provide power and 24-hour access to the repeater in the event of problems.

How you can help: You can donate to our fund-raising drive, and since we are a 501c3 charitable organization we can give you a receipt that can be used with the IRS. Even small donations will help, if 100 people donate $20 that would help pay for the necessary antenna to cover the community. If 200 people were to donate $40 each, we could afford to put up a tall tower and purchase an even better radio then planned which provide even better coverage for the community on what, right now, is our shoe string budget. It's really up to you, will you help us to help you in the event of an emergency? If so please donate! If you would like more info please contact one of the Board members or email David Mandala at treasurer@sachseradio.org

1 An **amateur radio repeater** is an electronic device that receives a weak or low-level amateur radio signal and retransmits it at a higher level or higher power, so that the signal can cover longer distances without degradation. See: https://en.wikipedia.org/wiki/Amateur_radio_repeater

This list of items for sale was shared with us from the Garland club.

The Garland Amateur Radio Club had a very good turn out last Saturday and sold a large amount of equipment, much of it going to other area clubs.
We still have a lot left and have added a number of items to the earlier list so be sure to look it over again.
This list has been scrubbed with all sold items removed and a few with more complete descriptions than available previously.
Contact Lowell Allen KD5RFD at lowell_allen@hotmail.com with any questions or to make arrangements to buy any of the items.
Please pay attention to the legend at the top of the list for some coding details including the yellow highlighted last time updated.

Manufacturer	Model No.	Description	Ask	From
EXTRA	>>>	MAKE OFFER =	M O	
DETAILS	>>>	RS TRANSCEIVERS ARE FREE TO ANYONE BUILDING A BOX		
TO HELP	>>>	PACKAGE DEALS		
UNDERSTAND	>>>	(LISTED IN BOX)		
THIS FILE	>>>	TEM ALREADY REQUESTED, BUT MAY STILL BE AVAILABLE		SOLD
		NEW FROM LIST IN ARCLITE		
UPDATED 8/20/20		~~CROSSED OUT ITEMS ARE BROKEN OR DO NOT WORK~~		
MFJ	MFJ-4117	"BIAS-TEE", INSERT DC VOLTS ON ANTENNA LEAD (SWITCH ON	$10	K5HW
		MISSING BASE AND NEEDS REPAIR		
MFJ	MFJ-4117	"BIAS-TEE", INSERT DC VOLTS ON ANTENNA LEAD (SWITCH ON	$25	K5HW
REALISTIC	MPA-95	AMPLIFIER, PA, 100W (CAT 32-2036 IN BOX) FOR 4 MICROPHOI	$50	K5QBM
AMERITRON	ALS-600	AMPLIFIER, SOLID STATE, 600 W, 160 - 6 M	$800	W5IDN
WITH	ALS-600SPS	POWER SUPPY, SWITCHING, 50 V FOR ALS-600		
AMERITRON	ALS-600	AMPLIFIER, SOLID STATE, 600 W, 160 - 6 M, LOW 20M OUT	$800	K5HW
WITH	ALS-600SPS	POWER SUPPY, SWITCHING, 50 V FOR ALS-600		
MFJ	MFJ-259	ANTENNA ANALYZER, 1.8 MHZ - 170 MHZ MUST USE EXT PWR	$100	N5FA
DVE	DV-1230	WALL-WART, 12 V, 300 MA (SUBSTITUTED DIFFERENT WAL-WART)		
TEN-TEC	253	ANTENNA COUPLER, AUTOMATIC	$400	K5HW
L D G	RT-11	ANTENNA MATCHING, AUTOMATIC TUNER, W/ REMOTE HEAD	$150	K5HW
MFJ	MFJ-16010	ANTENNA MATCHING, 200W RANDOM WIRE TUNER - INTERMI	M O	KC5IIO
CDE	HAM-M	ANTENNA ROTATOR W/CONTROLLER, HAD BEEN ON OUR TOW	$200	K5QHD
ALIANCE	HD-71	ANTENNA ROTATOR CONTROLLER, DUAL SPEED	$50	N5FA
HOME BUILT	N / A	ANTENNA, BALANCED FEED LINE W/ISOLATOR FOR DIPOLE	$20	K5HW
HOME BUILT	N / A	ANTENNA, BALANCED FEED LINE FOR DIPOLE	$10	K5HW
SUMMER	XP-40	ANTENNA, HF (FROM FLORIDA) BROKEN ELEMENT	M O	K5HW
HOME BUILT	N / A	ANTENNA, J-POLE, FROM COPPER PIPE (WELL BUILT)	$40	W5BJ
VARIOUS		ANTENNA, MAG MOUNT, VHF/UHF (NUMEROUS CHOICES)	$5-15	~
UNKNOWN	N / A	ANTENNA, TELESCOPIC, 5.5"-24", PL-259, W/HINGE	$5	KC5KYP
UNKNOWN	N / A	ANTENNA, UNTESTED, BNC, HT (~11.5" LONG), VERY FLEXIBLE	$10	K5HW
DIAMOND	AZ2507RSP	ANTENNA, WHIP ONLY, PL-259 MOUNTING, NO BASE	$15	K5HW
MFJ	1714	ANTENNA, VHF, TELESCOPIC, BNC w/ SMA(M), "LONG RANGER"	$10	KC5KYP
LARSON KUBROD		ANTENNA, VHF ONLY, LM-MM BASE, LM-150 ANTENNA	$15	K5HW
KENWOOD	MA-700	ANTENNA, VHF/UHF, NO BASE-ONLY WORKS ON SOME BASES	$15	K5HW
DIAMOND	RH77B	ANTENNA, VHF/UHF, BNC, FOR HT (~15" LONG) QTY = 2	$10	K5HW
UNKNOWN		ANTENNA, 10M 1/4 WAVE, 96", NO BASE	$10	K5HW
MATSUSHITA	VQ7155	AUTOTRANSFORMER, 120VAC, 5A, 2 WIRE ONLY - NO GND	$25	K5QBM
HY-GAIN	BN-86	BALUN, CURRENT, 1:1, 1500W, 3-30 MHZ, 50 OHM	$25	W5IDN
HY-GAIN	BN-4000B	BALUN, CURRENT, BEAM MOUNT, 1-54MHZ, 4KW, 50 OHM, SO-2	$50	K5HW
HAWKER ENERGY	SBS 60/2	BATTERY, 12V, 64 AHr, 42.6 POUNDS	$10	K5HW
W & W MFG	WWH-PB32	BATTERY, 6V, 1100 MAH, NiMH FOR KENWOOD	M O	K5HW
W & W MFG	WWH-PNB-83	BATTERY, 7.2V, 2500 MAH, NiMH FOR KENWOOD	M O	K5HW
UNKNOWN	N / A	BOX, TELEPHONE JUNCTION, BLACK PLASTIC	$2	N5FA
VARIOUS	N / A	BRAID VARIOUS LENGTHS, ALL SMALL ROLLS	$2 EA	K5HW
RADIO SHACK	ARCHER	CABLE, ANTENNA ROTATOR, VARIOUS LENGTHS, 3 CONDUCTOI	.10/FT	N5FA
UNKNOWN	N / A	CABLE, ANTENNA ROTATOR, VARIOUS LENGTHS, 5 & 8 CONDUC	.15/FT	N5FA
VARIOUS	VARIOUS	CABLE, COAX, AUDIO	$1 EA	~
TIMES MICROWAV	LMR-400	CABLE, COAX, VARIOUS LENGTH AND ASSY ($.60/FT USED) I	.75/FT	N5FA
TIMES MICROWAV	LMR-400 FLEX	CABLE, COAX, VARIOUS LENGTH AND ASSY ($.60/FT USED) I	.75/FT	N5FA
TIMES MICROWAV	LMR-400 ULTF	CABLE, COAX, VARIOUS LENGTH AND ASSY ($.60/FT USED) I	.75/FT	N5FA
VARIOUS	RG-213	CABLE, COAX, VARIOUS LENGTH	.50/FT	K5HW
VARIOUS	RG-213	CABLE, COAX, VARIOUS LENGTH AND ASSY (ALL USED)	.40/FT	~
VARIOUS	RG-8X	CABLE, COAX, VARIOUS LENGTH ($.20/FT USED)	.25/FT	K5HW
VARIOUS	RG-58	CABLE, COAX, VARIOUS LENGTH ($.15/FT USED)	.20/FT	K5HW

VARIOUS	VARIOUS	CABLE, COAX, VARIOUS LENGTH JUMPERS	$5 EA ~	
VARIOUS	AWG 8	CABLE, DC "ZIP CORD", RED/BLACK ($.75/FT USED)	1.00FT	K5HW
VARIOUS	AWG 10	CABLE, DC "ZIP CORD", RED/BLACK ($.60/FT USED)	.70/FT	K5HW
VARIOUS	AWG 12	CABLE, DC "ZIP CORD", RED/BLACK ($.40/FT USED)	.50/FT	K5HW
VARIOUS	AWG 14	CABLE, DC "ZIP CORD", RED/BLACK ($.25/FT USED)	.35/FT	K5HW
VARIOUS	AWG 16	CABLE, DC "ZIP CORD", RED/BLACK ($.20/FT USED)	.25/FT	K5HW
VARIOUS	AWG 18	CABLE, DC "ZIP CORD", RED/BLACK ($.15/FT USED)	.20/FT	K5HW
UNKNOWN	26-171	CAPACITOR, VARIABLE, UNKNOWN RANGE	$5	W5IDN
STANLEY OR	T-7660443-1	CAPACITOR, VARIABLE, UNKNOWN RANGE QTY = 2	$5	N5FA
HAMMARUND MFG	T-7660443-2	CAPACITOR, VARIABLE, UNKNOWN RANGE QTY = 2	$5	N5FA
HARBOR FREIGHT	VOYAGER	CASE, ALUMINUM, "SUITCASE" 13 X 18 X 6, W/PADDING	$10	K5HW
KRACO	KCB-2320A	CB DELUXE, 23 CHANNEL, W/ANTENNA	$10	KY5N
YAESU	NC-88B	CHARGER, BATTERY, 12.0V, 200MA (NEW IN BOX)	$15	K5HW
KENWOOD	KSC-14	CHARGER BASE FOR 2 HT (OLDER KENWOODS ?)	M O	K5HW
BATTERIES AMERICA		WITH 2 PB-34xh Ni-MH BATTERIES (9.6V, 1200 MAH)		K5HW
A&A ENGINEERING	150-ASY	CHARGER, BATTERY, SMART, 1 AMP FOR SLA/GEL CELL/ETC Q	$40	K5HW
ADVANCED ELECTI	CP-1	COMPUTER PATCH INTERFACE	M O	K5QBM
ANDREWS	L44AW	CONNECTORS, 5) N MALE FOR HELIAX LDF4-50A, PARTS ONLY	$25	KY5N
MAGNAVOX	TB110MW9	CONVERTER, DTV TO ANALOG TV W/CABLES	$15	K5QBM
K5HW & W5TU	20 YEARS	CW KEY AWARD ON WOOD PLAQUE	M O	K5HW
BENCHER	BY-1 ?	CW KEY, IAMBIC	$60	N5FA
BENCHER (FAKE)	BY-1 STYLE	CW KEY, IAMBIC (NO NAMEPLATE) (BY-1 is $150 new)	$40	K5HW
TUCKER	T-200	DUMMY LOAD, DRY, 300 W MAX, DC - 150 MHZ	$20	KC5IIO
DIAMOND	MX-72H	DUPLEXER, HF-VHF/UHF, 1.6-30MHZ & 140-150 / 400-460 MHZ L	$30	K5HW
VARIOUS		FANS, MUFFIN STYLE, 120 VAC, QTY = 3	$5 EA	K5HW
EDCO	TX-146	FILTER, INTERMODULATION	$20	K5HW
E.F.Johnson	- - - -	Filter, Low Pass (no details known)	$5	K5QBM
R.L.Drake	TV-1000-LP	Filter, Low Pass, 52 Ohm, 1000W below 30 MHZ	$5	K5QBM
R.L.Drake	TV-42-LP	Filter, Low Pass, 52 Ohm, 100W below 30 MHZ	$5	K5QBM
AUTEK RESEARCH	QF-1A	FILTER, SSB/CW/AM, OCTAL CONNECTOR	M O	K5HW
HEATHKIT	GD-1B	GRID DIP METER, W/4 COILS COVERING HF BANDS (VHF MISS	M O	K5HW
HEIL SOUND	PROSET 4	HEADPHONES WITH MICROPHONE MISSING EARPHONE CONN	$75	K5HW
HEIL SOUND	BM-10-4	HEADPHONES, "BOOMSET", DUAL SIDE W/ MIC, LIGHTWEIGHT	$50	K5HW
UNKNOWN	N / A	HEADPHONES, "STEREO" BUT 1/4" MONO JACK	$5	W5IDN
SONTEC	CD-750M	HEADPHONES, DYNAMIC W/ BOOM MIC	$10	W5IDN
RADIO SHACK	20-210A	HEADPHONES, MONAURAL, HAD 2	$5 EA	K5HW
UNKNOWN	N / A	HEADPHONES, SCANNER, RED, NEED WORK	$2	KC5KYP
RADIO SHACK	33-1160	HEADPHONES, STEREO	$7	K5HW
TEAM SILENCE		HEADPHONE STYLE EAR PADS FOR NOISE REDUCTION	$5	K5HW
ALPHA DELTA	N / A	HV ARC PLUG REPLACEMENT, 2 KW UP TO 1 GHZ	$10	N5FA
M F J	MFJ-407C	KEYER, DELUXE ELECTRONIC (MFJ-407E is $110 new)	$80	K5HW
UNKNOWN	N / A	KEYER, ELECTRONIC, KIT (WELL BUILT) 4 MEMORIES DON'T W	$40	K5HW
RADIO WORKS	4K-LI	LINE ISOLATOR QTY = 3	$10 EA	K5HW
DENTRON	MLA-2500	LINEAR AMPLIFIER, 10-160M, 234 VAC 15 AMP INPUT	$600	N5FA
TEN-TEC	425 "TITAN"	LINEAR AMPLIFIER, 2KW EEP, W/POWER SUPPLY *$ SPECIAL	1200	K5HW
R F ELECTRONICS	SKYWALKER 5	LINEAR AMPLIFIER, 10-17/20-160M, 500W, KIT, NEEDS ASSEM	M O	K5HW
HOME BUILT	N / A	MATCHING NETWORK, MYSTERY BOX FOR POLE MOUNTING	M O	K5HW
COLLINS	F235-100	MECHANICAL FILTERS (2), UNTESTED	$5	KY5N
JBT	60-JPS	METER, 0-300C, FOR 10 IRON CONSTANTAN THERMOCOUPLES	M O	K5QBM
UNKNOWN	N / A	METER LEADS	$5	K5HW
DAIWA	CN-101L	METER, SWR & RF POWER, 1.8-150 MHZ, 15/150/1.5KW, CROSS	$75	N5FA
DAIWA	CN-801H	METER, SWR & RF POWER, 1.8-200 MHZ, 20/200/2K W, CROSS	$100	K5HW
TUCKER	TM-3000UV	METER, SWR & RF POWER, 60-500 MHZ, 30/300W, PEAK/AVG	$50	KC5IIO
MICROWAVE DEVI	261	SENSING UNIT FOR RF POWER & SWR (OLD SCHOOL,	$50	N5EJO
M C JONES	262	INDICATOR, FORWARD/REFLECTED POWER CLASSIC STYLE)		
KENWOOD		MICROPHONE	$10	K5HW
KENWOOD	VOX-4	MICROPHONE, CONTROLLER	M O	N5FA
HEIL SOUND	HM-5	MICROPHONE, DESK	$70	K5HW

KENWOOD	MC-60A	MICROPHONE, DESK TOP, W/MANUAL, MATCHES TS-680S	$25	N5FA
ASTATIC	D-104	MICROPHONE, DESK, ON "G" STAND, 4-PIN PLUG (KENWOOD?)	$40	K5HW
YAESU	MH-31 B8	MICROPHONE, IN BOX, 8-PIN SCREW-ON CONNECTOR (AT GAR	$10	K5HW
ICOM	HM-12	MICRROPHONE/SPEAKER?, 8-PIN PLUG	$15	KC5KYP
AUTIONTEC	GT704-WG	MODEM, DSL, **UNTESTED**	$10	KC5KYP
UNKNOWN	MU118	MULTIMETER, DIGITAL, WITH LEADS & THERMOCOUPLE	$10	K5HW
RADIO SHACK	22-163	MULTIMETER, DIGITAL, AUTO RANGE	$15	W5IDN
~~BECKMAN~~	~~HD 110~~	~~MULTIMETER, DIGITAL, **DISPLAY ON**, SOFT PADDED CASE (WA~~	~~M O~~	~~K5HW~~
~~CLEAR SPEECH~~	~~BASE~~	~~NOISE FILTER, BY AM COM INC. **NON WORKING** (PROCESSOR~~	~~M O~~	~~K5HW~~
MFJ	MFJ-1112	POWER STRIP, POWER POLE INPUT, 6 BANANA PLUG PAIRS, UN	$50	K5HW
MFJ	MFJ-1118	POWER STRIP, HIGH CURRENT, 2 PAIR BANANA W/35A TOTAL, 6 BANANA PLUG PAIRS W/15A TOTAL SWITCHED, W/ VOLT METER	$75	N5FA
LAMBDA	LCS-A-5	POWER SUPPLY, 5V, 2.7A **QTY = 3**	$10	K5HW
HOME BUILT	LARGE CASE	POWER SUPPLY, 5V / 12V / 24V, ?A	$10	K5QBM
HOME BUILT	SMALL CASE	POWER SUPPLY, 12V, 1A,	$5	K5QBM
LAMBDA	LM-B12	POWER SUPPLY, 13.8V, 2.5A (12V +/- 10% RATED)	$10	K5QBM
RADIO SHACK	22-506	POWER SUPPLY, 13.8V, 10A, W/CIGAR PLUG OUT & 5-WAY	$32	KC5KYP
ASTRON	RS-50A	POWER SUPPLY, 13.8V, 50A MAX, 37A CONTINUOUS	$150	N5FA
KEPCO	PBX15-1.5	POWER SUPPLY, ADJ., 0-15V, 0-1.5A, OPEN FRAME	$10	K5QBM
KEPCO	PBX36-0.3C	POWER SUPPLY, ADJ., 0-36V, 0-0.3A, OPEN FRAME	$10	K5QBM
KEPCO	PBX7-2	POWER SUPPLY, ADJ., 0-7V, 0-2A, OPEN FRAME (2 FOR 1)	$10	K5QBM
SORENSON	QRB-20-1.5	POWER SUPPLY, ADJUSTABLE, 0-20 VDC, 0-1.5 ADC	$20	KY5N
HOME BUILT	N / A	PROJECT BOX, EMPTY, 7" X 5" X 3"	$2	N5FA
UNKNOWN	N / A	PROJECT BOX, VARIOUS	$2-5	~
UNKNOWN	N / A	PROJECT BOX, PLASTIC, W/BATTERY COMPARTMENT	$2	W5IDN
HOME BUILT	N / A	PROJECT BOX, RELAYS, 8 CONNECTOR TERMINAL BLOCKS IN /	$10	N5FA
RAMSEY (KIT)	N / A	RECEIVER, 3 - 4 MHZ, ALL MODE, REQUIRES 9V **AS-IS**	$5	KC5IIO
HAMTRONICS (KIT	N / A	RECEIVER, WEATHER SATELLITES? **AS-IS** HAS AUDIO, BUT COULD NOT HEAR ANY STATIONS	$5	KC5IIO
BELL & HOWELL	N / A	RECEIVER, WORLD, FM/MW/SW, 9 BAND PORTABLE, USES 2) AA BATERIES	$10	KY5N
A C C	RC-850	REPEATER CONTROLLER, RACK MOUNT, W/MANUALS	$100	K5QBM
V H F	RPT-144	REPEATER, VHF, 17 WATTS, 147.240 MHZ	$50	K5QBM
RADIO SHACK	KNIGHT	RF GENERAOR, 160KC TO 112 MC IN 6 RANGES	$20	K5HW
UNKNOWN	987	RF TRANSFORMER ASSY, 50/75 OHM, 1.8-30MHZ, 6KW PEP	$5	N5FA
BEARCAT(MWards)	835	SCANNER, 18 CHANNELS, VHF & UHF TO 512 MHz	$20	KY5N
BEARCAT	210XL	SCANNER, 18 CHANNELS, VHF & UHF TO 512 MHz, WORKS GOO	$20	KC5IIO
LOADSTAR	SG-4162AD	SIGNAL GENERATOR/COUNTER, WORKS GOOD	$75	KC5IIO
KNIGHT	N / A	SIGNAL TRACER, **UNTESTED**	$5	KY5N
I C P	SUN SAVER 6	SOLAR PANEL, BATTERY SAVER PRO, 5W@12V, W/CONTROLLER	M O	K5HW
WELLER	WCC100	SOLDERING STATION	$40	K5HW
MFJ	MFJ-281	SPEAKER, "CLEAR-TONE", 3"X3", 5-8W MAX, 8 OHM, **QTY = 2**	$5 EA	K5HW
WORKMAN	7-19	SPEAKER, "SUN-VISOR", 2"X2", 8 OHM, 3W NOM (5W MAX)	$10	K5HW
HEIL SOUND	N / A	SPEAKER, 4+1 PIN PLUG, **HAD** 12 V EXT PWR - **MODIFIED**	M O	K5HW
REALISTIC	40-1250C	SPEAKER, 8 OHM, 7 WATT MAX, 4" WOOD GRAIN BOX	$5	N5FA
~~CLEAR SPEECH~~	~~CSS 1, 2~~	~~SPEAKER, BY NOISE CANCELATION TECHNOLOGIES **NOT WORI~~	~~M O~~	~~K5HW~~
ACOUSTIC FIBER	3025	SPEAKER, EXTERNAL, 4", "KRIKET TE"	$5	W5IDN
MIDLAND	21-404	SPEAKER, EXTERNAL, 6W, 8 OHM	$5	K5QBM
UNKNOWN	N / A	SPEAKER, IN BOX 8 X 6 X 11'', FOR VEHICLE MOUNT	$10	K5HW
CENTRALAB	PA-1015	SWITCH, 4 POLE, 11 POSITION, NON-SHORTING, PHENOLIC, Q1	M O	K5HW
CENTRALAB	PSA-201	SWITCH, 1 POLE, 12 POSITION, NON-SHORTING, PHENOLIC	M O	K5HW
HOME BUILT	N / A	SWITCH BOX, DUAL, "RADIO HEADPHONE BOX"	M O	N5FA
HOME BUILT	N / A	SWITCH BOX, DUAL, "VOLTAGE CONTROL"	M O	N5FA
HOME BUILT	N / A	SWITCH BOX, SINGLE, "KEYING SWITCH BOX"	M O	N5FA
HOME BUILT	N / A	SWITCH BOX FOR ANTENNA COUPLER W/FILTER, 60-10 METER	M O	K5HW
MFJ	MFJ-1272B	SWITCH, MICROPHONE/TNC	$20	W5IDN
LINEMASTER	491-SC3	SWITCH, REMOTE, FOOT, COMPACT, W/ CONNECTOR FOR ?	$10	K5HW
RADIO SHACK	44-610	SWITCH, REMOTE, FOOT, NEW-IN-BOX	$15	K5HW
RADIO SHACK	44-610D	SWITCH, REMOTE, FOOT, NEW-IN-BOX	$15	KY5N
RADIO SHACK	44-610D	SWITCH, REMOTE, FOOT, USED	$10	KY5N

RADIO SHACK ?	44-610D ?	SWITCH, REMOTE, FOOT (FOR PTT)	$10	N5FA
YAESU	FT-900AT	TRANSCEIVER, HF/50MHZ, 100W **NO MIC YET ?**	$600	K5HW
YAESU	FT-450	TRANSCEIVER, HF/50MHZ **(IN CASE #1)**	$450	K5HW
ICOM	IC-7700	TRANSCEIVER, HF/50MHZ, **VERY HIGH END UNIT**	4000	K5HW
KENWOOD	TS-680S	TRANSCEIVER, HF/50MHZ MULTIBANDER, ALL-MODE	$250	N5FA
STANDARD	C734L	TRANSCEIVER, HT, 6 CRYSTAL CHANNELS, W/ CSA 4 CHARGER	M O	K5QBM
ICOM	IC-T22A	TRANSCEIVER, HT, VHF, 5W, RUBBER DUCK ANTENNA, **NO CHA**	$40	W5IDN
ICOM	IC-T2H	TRANSCEIVER, HT, VHF, 6W, W/ MANUAL & HIGH GAIN ANTENN	$50	W5IDN
ALINCO	DJ-G5	TRANSCEIVER, HT, VHF/UHF, W/2 BATTERIES, **BAD**	$10	KC5KYP
YAESU	VX-7R	TRANSCEIVER, HT, VHF/UHF/6M, **BAD BATTERY, REPLACE**	$100	N5FA
ICOM	IC-28H	TRANSCEIVER, MOBILE, VHF, W/HM-12 MIC, **NO TRANSMIT AUDIO**	M O	N5FA
RADIO SHACK	HTX-242	TRANSCEIVER, MOBILE, VHF, 10/45 W, **BAD**	M O	KC5KYP
		NO BACKLIGHT, NO OUTPUT, NEEDS MIC CORD		
YAESU	FT-2900R	TRANSCEIVER, MOBILE, VHF, 75/30/10/5 W, W/MH-48 MIC	$120	K5HW
ICOM	IC-3200A	TRANSCEIVER, MOBILE, VHF/UHF, 25W/5W, **NO SQUELCH**	$30	AC5AX
JUENTAI	JT-6188 PLUS	TRANSCEIVER, MOBILE, VHF/UHV, 25W/20W	$50	W5BJ
~~KENWOOD~~	~~TM-V7A~~	~~TRANSCEIVER, MOBILE, VHF/UHF, FM, 50W/35W, W/MC-53DM M~~	~~M O~~	~~K5HW~~
YAESU	FT-8500	TRANSCEIVER, MOBILE, VHF/UHV, W/MH-39 MIC	$100	KC5IIO
ICOM	IC-255A	TRANSCEIVER, VHF, MOBILE, 25W/1W **NO PL TONE**	FREE	APRS
ICOM	IC-27A	TRANSCEIVER, VHF, MOBILE, 25W/5W **NO PL TONE**	FREE	APRS
AZDEN	PCS-5000	TRANSCEIVER, VHF, MOBILE, 25W/5W **SQUELCH ALWAYS OPE**	FREE	APRS
KENWOOD	TM-2550A	TRANSCEIVER, VHF, MOBILE, **45W RATED** / 5W	FREE	APRS
KENWOOD	TS-930S	TRANSCEIVER, HF, 100VAC INPUT, **TUNING BAD, SELL FOR PARTS**	$150	N5FA
SUGANO	SU-600	TRANSFORMER, STEP DOWN, 120 TO 100VAC	M O	N5FA
KENWOOD	SP-930	SPEAKER, DESK TOP (TO MATCH TS-930S)	$60	N5FA
ICOM	IC-551D	TRANSCEIVER, 50 MHz, ALL-MODE, **ONLY 20 WATTS OUTPUT**	$600	N5FA
ICOM	IC-PS20	POWER SUPPLY, 20 AMP, 15A CONTINUOUS		N5FA
ICOM	IC-SM2	MICROPHONE, DESK TOP		N5FA
MIRAGE	A-1015-G	AMPLIFIER, 50 MHz, 1-15 W IN, 150W OUT @10W IN		N5FA
ICOM	IC-271 H	TRANSCEIVER, VHF, ALL-MODE, **VERY LOW RX SENSITIVITY - OTHERWISE OK**	M O	N5FA
ICOM	IC-471 H	TRANSCEIVER, UHF, ALL-MODE, WORKS VERY GOOD		N5FA
ICOM	AG-25	ANTENNA PREAMP, 144MHZ, UHF CONNECTORS		N5FA
ICOM	AG-35	ANTENNA PREAMP, 430MHZ, UHF CONNECTORS		N5FA
ICOM		MICROPHONE, DESK TOP		N5FA
ADVANCED SCHO(	- - - -	TRANSISTOR CHECKER, **UNTESTED**	$5	KY5N
AMIDON	W2FMI	UNUN TRANSFORMER, 1.78 : 1, HMMU50, **UNTESTED**	$5	N5FA
AMIDON	W2FMI	UNUN TRANSFORMER, 4 : 1, HCU50, **UNTESTED**	$5	N5FA
VERTEX STANDARI	PA-48B	WALL-WART CHARGER FOR YAESU HT	$10	K5HW
KENWOOD	BC-17	WALL-WART, 13.5 V, 70 MA	$5	K5HW
REALISTIC	20-189	WALL-WART, 5.8 VDC, 85MA, NI-CAD BATTERY CHARGER	$5	W5IDN
TANDY	26-3804	WALL-WART, 6 V, 400 MA	$3	K5HW
CHUNG HING	CH-41	WALL-WART, 6 V, 500 MA	$3	K5HW
SINO-AMERICAN	9-10	WALL-WART, 9 V, 1 AMP	$4	K5HW
IPD-CC	DV-9500	WALL-WART, 9 V, 500 MA	$3	K5HW
LDG ELECTRONICS	DWM-4	WATTMETER, DIGITAL W/2KW HF & 200W VHF/UHF REMOTE SEN	$100	K5HW
RF APPLICATIONS	VFD	WATTMETER, DIGITAL, 0-3KW, **W/O REMOTE SENSOR (MISSI**	M O	K5HW
BIRD ELECTRONIC	Trueline 43	WATTMETER, IN-LINE, 50 OHM, N CONNECTORS, W/	$300	N5FA
BIRD ELECTRONIC	100A	SLUG, 100W, 25-60 MHz, (FOR 10 & 6 Meter)		N5FA
BIRD ELECTRONIC	Trueline 43	WATTMETER, IN-LINE, 50 OHM, UHF CONNECTORS, W/	$300	N5FA
BIRD ELECTRONIC	100A	SLUG, 100W, 25-60 MHz, (FOR 10 & 6 Meter)		N5FA
PEET BROS.	ULTIMETER II	WEATHER STATION AND DATA LOGGING S/W	$150	K5HW

Sachse Amateur Radio Association
Meeting Minutes
August 13, 2020

Start time: 7:30 pm
Location: Via Google Meet
Facilitator: John Smyder (W5JWS) President

Opening

John Smyder (W5JWS) President

Everyone introduced themselves and gave their call sign

Johnnie Young (KG5CQO)

Listed each attendee as they introduced themselves.

Attendees

14 members
2 guests

President's report – John Smyder (W5JWS)

Next board meeting is Aug. 27th on line
Next general meeting is Sept 10th, 7:30 pm,
likely virtual
watch weekly SARA upcoming activities,
e-mail and newsletter, and Facebook for details
September meeting is for Election of board members
Contact **Rich Lakin, AG5PM**, at rjlakin@att.net
or **Jeff Feldman, KI5DDX**, at feldini@gmail.com
if you are interested in running for a position

Vice-President – Gregg Kent (KK6AXF)

Activities committee
Need ideas for social distancing
Other ideas

Sachse Amateur Radio Association
Meeting Minutes
August 13, 2020

Secretary – Johnnie Young (KG5CQO)

Minutes for the July meeting are posted on the web site, and were published in the newsletter
Motion to accept – **David Mandala (KG5WFS)**
2nd to accept motion – **Mark Mantooth (KI5CYA)**
No one opposed
Motion passed

Treasurer – David Mandala (KG5WFS)

Financial sheet for August updated to August 11th
Review of finances were presented
Motion to accept – **Johnnie Young (KG5CQO)**
2nd to accept motion – **Greg Kent (KK6AXF)**
John Briggs (KC6TVF)
No one opposed
Motion passed

John Smyder (W5JWS)

Repeater is under budget and the work continues

Information Officer – John Briggs (KC6TVF)

Saturday – QSO breakfast @ Woodbridge Cafe @ 8:00
In person on hold
Café is open but no large groups
Next VE Session – September 12th, Wylie Masonic Lodge
Need volunteers for NCS repeater
August 19th **Lonnie Webb – KG5WHQ**
August 26th **Rich Lakin – AG5PM**
September 2nd **Linda Smyder – K5LCS**
September 9th **John Smyder – W5JWS**
Simplex Net temporarily suspended while we work on some operating scenarios

Sachse Amateur Radio Association
Meeting Minutes
August 13, 2020

Newsletter editor – Steve Harbin (W5SOT)

Not in attendance

John Smyder W5JWS

News letter was sent via e-mail and is on the SARA web site

Distribution #115

Submissions due by the 1st day of the month

Goal—to have the newsletter out a week prior to the general meeting

Always can use news articles and ideas

Projects you are working on or have completed

Events and activities related to Ham Radio

Articles you have read in other publications

Take pictures at all events & send to the Newsletter editor **Steve Harbin (W5SOT)** at newslettereditor@sachseradio.org

The newsletters are really good when members send in articles

Remember the newsletter goes beyond the membership

Director-at-Large – Mark Mantooth (KI5CYA)

Doing the presentation on Allstar

Anyone who needs help or has questions about setting up

Contact Mark at KI5CYA.TX@gmail.com

Education Report – John Smyder (W5JWS)

Ideas for upcoming meetings

Please help with subject matter

Upcoming General Meeting Subject Plans

Sept – BOD elections

Oct – Youth in Amateur Radio – **Katherine Forson – KT5KMF**

Nov – Coordinated fox hunt – **Mike McCafferty – N5MMC**

Dec – Christmas Party

Ballots go out September 1st

Sachse Amateur Radio Association
Meeting Minutes
August 13, 2020

Guest Speaker

Mark Mantooth – KI5CYA

Allstar

Allstar is a world wide network accessible via the internet through a dedicated Linux computer and computer nodes

A portal allows a radio operator to communicate with other radio operators

It is similar to Ecolink

There are two ways to connect

1- With a web transceiver

2- A phone, which takes two numbers to use

There are many nodes one can connect to

Communications are very clear

Cost

Need

A raspberry pi 3 -- $25

A radio interphase -- $85

Software – free

ASL – open source

Micro SD card -- $30

@ $140

Adjourned: 8:50 pm

Motion – **David Mandala – KG5WFS**

2nd the motion – **Greg Kent – KK6AXF**

No one opposed

Motion passed

Sachse Amateur Radio Association Weekly Repeater Net Script

Version: 6.0 - March 1, 2020

Good evening and welcome to the "*Ham Radio in Sachse*" Weekly Information Net. My name is (*name, call sign*), and I will be your net control this evening. ***(pause)*** This net is heard every Wednesday evening at 8:00pm on the N5LOC repeater, on frequency 145.250, using a PL tone of 141.3. All licensed amateurs are invited and encouraged to participate, whether you are a club member or guest. ***(pause)***. This is a Directed Net. Please do not transmit unless directed to do so by Net Control. If the net should go down, everyone should switch to simplex frequency 146.400, with no PL tone or offset. Also, if at any time, you have an emergency to report, break in by saying "Priority" or "Emergency" followed by your call sign and the net will stand by. An emergency is defined as the imminent threat to life or property. **Is there any emergency, priority or time sensitive traffic at this time?** ***Pause***

Check-Ins:
We will begin by taking check-ins, three at a time. If you would like to check into this net, please give your call sign phonetically, your name and repeat your Call Sign alphanumerically slowly, so Net Control can write it down. I will take three check-ins now.
(*write down and read back call signs of check ins*). (Remember: Echo Link users (if any) need a few extra seconds to respond). (You might ask if there are any Echo Link users who would like to check-in.)

Club Announcements: ***Now is a good time for Net Control to ID.***
Our first topic will be announcements from club officers. Any club officer on the net with an announcement, please give your call sign now.

Member & General Comments: ***Now is a good time for Net Control to ID.***
Our next topic is member & general comments. Any member of the Sachse Amateur Radio Association, or anyone else on this net, who would like to make a comment, please give your call sign now.

Tech Talk: ***Now is a good time for Net Control to ID.***
Now it is time for Tech Talk. You might ask any questions you have of a technical nature regarding amateur radio or computers. You might share any information or comments that you think would be valuable for the group. If anyone has an item for Tech Talk, please give your call sign now.

Swap Shop: ***Now is a good time for Net Control to ID.***
The next topic is Swap Shop. Anyone wishing to buy, sell, trade, or give away items related to ham radio or computers is invited to do so. Please do not haggle over price on the air. If anyone has an item for Swap Shop, please give your call sign now.

Education: ***Now is a good time for Net Control to ID.***
Now we would like to know if anyone has an idea for an Education Presentation. Anyone who wants to suggest an item for a future presentation, or who has a presentation to share this evening, please give your call sign now.

How Was Your HAM Week: ***Now is a good time for Net Control to ID.***
Now for the fun part of our hobby, "***How Was Your HAM Week***". This exercise allows any station to share anything related to HAM Radio. Example topics can be "DX'ing Observations", "Experiences", "Challenges", "Lesson-Learn with your equipment", "Victories on a project" or even something you have learned from a "not so successful project". Whether you are a member or guest, this exercise is voluntary. No station is under obligation to share anything. As your Net Control, I will start by briefly sharing my "Ham Week". (Share something you recently did.) If any station would like to share their "Ham Week", simply give your Call Sign and Net Control will recognize your station and give you the platform to share. (*Net Control – provide positive feedback on their topic.)*

Late Check-Ins: ***Now is a good time for Net Control to ID.***
Before we end this Net, I would like to take late check-ins. If there are any late check-ins, whether RF or Echo Link, please give your call sign and name slowly and clearly. (*write down and read back each call sign*).

Last Call:
This is now the last call for any station that might have any comments? Please give your call sign.

Wrap-Up: ***Now is a good time for Net Control to ID.***
This concludes the "Ham Radio in Sachse" Weekly Information Net. If you would like more information about the Sachse Amateur Radio Association, please visit our web site at www.sachseradio.org. This is (*call sign*) and we now return the N5LOC repeater to its normal use.

Sachse Amateur Radio Association Simplex Net Script

Version: 6.2 - April 25, 2020

Good evening and welcome to the "*Ham Radio in Sachse*" Simplex Net. My name is (*name, call sign*), and I will be your net control this evening. This net is heard every 3rd Tuesday evening at 7:30 pm on a frequency of 146.40 Simplex. Therefore, there is no need for an offset or PL tone. All licensed amateurs are invited and encouraged to participate, whether you are a club member or guest. This is a Directed Net. Please do not transmit unless directed to do so by Net Control. At the end of check-ins, I will ask for relays of check-ins I acknowledged, that you did not hear, and check-ins that I did not hear. Near the end of the program, I will ask for a signal report. If at any time, you have an emergency to report, break in by saying "Priority" or "Emergency" followed by your call sign and the net will stand by. An emergency is defined as the imminent threat to life or property. **Is there any emergency, priority or time sensitive traffic at this time?** ***Pause—***
hearing none...

Check-Ins:
We will begin by taking check-ins, three at a time. If you would like to check into this net, please give your call sign phonetically, your name and repeat your call sign alphanumerically, so Net Control can write it down. Please come now in groups of 3.
(*write down and read back call signs of check ins*).
When there are no more check-ins, go through the list and ask if anyone heard a check-in that you did not acknowledge or if there is a check-in that they did not hear.
You may have to pick a relay person for the night.
If you had to pick a relay person or persons, then remember to stop after each conversation and have the relay person pass that information on.

Club Announcements: ***Now is a good time for Net Control to ID.***
Our first topic will be announcements from club officers. Any club officer on the net with an announcement, please give your call sign now.

Member & General Comments: ***Now is a good time for Net Control to ID.***
Our next topic is member & general comments. Any member of the Sachse Amateur Radio Association, or anyone else on this net, who would like to make a comment, please give your call sign now.

Tech Talk: ***Now is a good time for Net Control to ID.***
The next topic is Tech Talk. Ask any questions you may have of a technical nature regarding amateur radio or computers. Feel free to share any information or share any comments that you find to be valuable with the group. If anyone has an item for Tech Talk, please give your call sign now.

Education: ***Now is a good time for Net Control to ID.***
Our next topic is Education. Anyone who has an education presentation they would like to make or want to suggest an item for a future presentation, please give your call sign now.

Signal Reports: ***Now is a good time for Net Control to ID.***
Next, we will discuss signal reports. How does net control and/or the check-ins come across. I will now go down the list of check-ins so everyone can give a response. Please use the plain language radio checks provided on the Sachse Radio web page. (For example; net control was loud and clear.) Also please include you r power levels at the end of your signal report.
(You start)

Late Check-Ins: ***Now is a good time for Net Control to ID.***
Next, Net Control would like to take late check-ins. If there are any late check-ins, please give your call sign and name slowly and clearly.
(*write down and read back each call sign*).
Remember to ask if there are any check-ins you did not acknowledge or check-ins that others did not hear.

Last Call:
Before we conclude the net, are there any Stations wishing to report into the Net and/or have any comments?

Wrap-Up: ***Now is a good time for Net Control to ID.***
This concludes the "Ham Radio in Sachse" Simplex Net. If you would like more information about the Sachse Amateur Radio Association, please visit our web site at www.sachseradio.org. This is XXXXXXX and we will now return this frequency to its normal use.

Sachse Amateur Radio Association
Sachse, Texas 75048-3696
www.sachseradio.org
kf5nbo@gmail.com

Date: _____

Type of Application: New Member ☐ **or Renewal** ☐

Your Call Sign:_____ **Your License Class:**_____

Your Name:_____ **Spouses Name:**_____

Address:_____

City:_____ **State:**_____ **Zip:**_____

Home Phone:_____ **Work Phone:**_____

Cell Phone:_____ **Email:**_____

Membership Types: Please check only one option below:

☐ **Regular:** A regular member shall be any FCC licensed amateur radio operator who does not fall under the special provision of an associate or student membership. Regular member dues are $25.00 per year unless prorated (see below).

☐ **Family:** A family membership shall be any FCC licensed amateur radio operators and non-licensed family members interested in amateur radio who live in the immediate household. Family member dues are $30.00 per year unless

☐ **Associate:** An associate member shall be any person maintaining membership to support the association but who does not hold a license as a radio amateur. Associate member dues are $10.00 per year and are not prorated.

☐ **Student:** A student member shall be any FCC licensed amateur radio operator who is currently enrolled as a full-time student, is 18 years of age or younger, and is not otherwise eligible to be included in a family membership. Student member dues are $10.00 per year and are not prorated.

If selecting Family membership, please list the family members covered by this application.

Name:_____ **Email:**_____ **Call Sign (if any):**_____ **Lic Class:**_____

Name:_____ **Email:**_____ **Call Sign (if any):**_____ **Lic Class:**_____

Membership Dues: (Please check only one)

Dues are initially paid upon joining the association. Renewal dues are paid no later than the September meeting each year. A new application must be submitted each year as well. Dues are reduced (prorated) for Regular and Family members (only) who join or renew their membership after Dec 31st:

- ☐ Joining Sep 1 thru Dec 31, pay $25.00 for Regular dues, or $30.00 for Family dues.
- ☐ Joining Jan 1 thru Mar 31, pay $18.75 for Regular dues, or $22.50 for Family dues.
- ☐ Joining Apr 1 thru Jun 30, pay $12.50 for Regular dues, or $15.00 for Family dues.
- ☐ Joining Jul 1 thru Aug 31, pay $6.25 for Regular dues, or $7.50 for Family dues.

TOTAL DUE: $_____

Are you a current member of the ARRL? YES ☐ or NO ☐ (please choose only one).

By submitting this application, either by hand or any electronic means, you hereby agree to abide by the rules and regulations of the Sachse Amateur Radio Association.

Signature: _____